Exam I notes

1. Starting with a second derivative, \( \dot{x} = \frac{d^2 x}{dt^2} \), be able to introduce a dimensionless time \( \tau = \frac{t}{T} \) to express \( \dot{x} \) in terms of \( x'' = \frac{d^2 x}{d\tau^2} \).

2. Be able to use the quotient rule of differentiation.

3. In the classifications of fixed points of a linear system, know about both the major cases and the borderline cases.